Interview Summary	Application No.	Applicant(s)	
	10/620,839	CHIANG ET AL.	
	Examiner	Art Unit	
	Joseph Kosack	1626	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Joseph Kosack*. (3)_____.

(2) *Hsiang-Ning Sun*. (4)_____.

Date of Interview: *27 June 2006*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1-20*.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Agreement was reached on an Examiner's amendment to cancel non-elected subject matter as submitted via fax by Hsiang-Ning Sun to Examiner Kosack*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

HSIANG-NING SUN
ATTORNEY AT LAW
4212 VILLANOVA STREET
HOUSTON, TEXAS 77005-3529

FACSIMILE TRANSMITTAL SHEET

TO: Mr. J. Kosack	FROM: H. N. Sun
COMPANY: US Patent and Trademark Office	DATE: June 27, 2006
FAX NUMBER: 571-273-5575	TOTAL NO. OF PAGES INCLUDING COVER: ~~22~~ 21
PHONE NUMBER: 571-272-5575	SENDER'S REFERENCE NUMBER: 10/620839
RE: Patent Application 10/620839	YOUR REFERENCE NUMBER: 10/620839

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Dear Examiner Kosack:

Please see the attached correspondence.

Sincerely,

H. N. Sun

REQUESTED

PAGE 1/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	Long Y. CHIANG, *et al*	Art Unit	1626
Application No.	**10/620,839**	Filed on	July 16, 2003
Examiner	Joseph Kosack	Paper No.	
For	**FULLERENE COMPOUNDS**		

***BY FAX: 571-273-5575* ONLY**

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

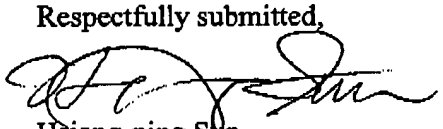
ELECTION/AMENDMENTS

Sir:

Applicants submit herein election of claims and amendments to claims to comform to the election.

Applicants believe that there are no fees due. However, the Commissioner is hereby authorized to charge any fees or credit overpayments related to this application to Deposit Account No. **50-2980**, maintained by the SUN Law office PLLC.

Respectfully submitted,



Hsiang-ning Sun
Attorney for Applicants
Registration No. 39849
Customer No. 000041282
4212 Villanova Street
Houston, Texas 77005-3529
(713)-666-8819 (Telephone)
(713)-665-5230 (Fax)

June 27, 2006

REMARKS

Election

Through telephone interviews and discussions with the Examiner Kosack between June 20 and June 22, 2006, Applicants confirm that they elect to prosecute claims with r=0 as previously indicated and agree to amend the claims to conform to the election.

Amendments

Claims 7, 8, and 9 are cancelled.

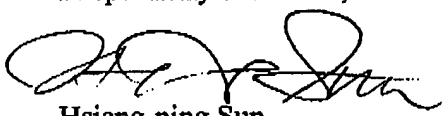
Claims 1, 16, 17, 18, and 20 are amended to be consistent with the election of the particular species for prosecution.

In addition, Claims 18 and 20 are amended to correct minor typographical error and eliminate a duplicative word.

Both a marked-up copy and a clean copy of all the claims are included in this correspondence. No new matters are introduced into the application by these amendments and Applicants respectfully request that the Commissioner enter these amendments as submitted.

Applicants believe that there are no fees due. However, the Commissioner is hereby authorized to charge any fees or credit overpayments related to this application to Deposit Account No. **50-2980**, maintained by the SUN Law office PLLC.

Respectfully submitted,



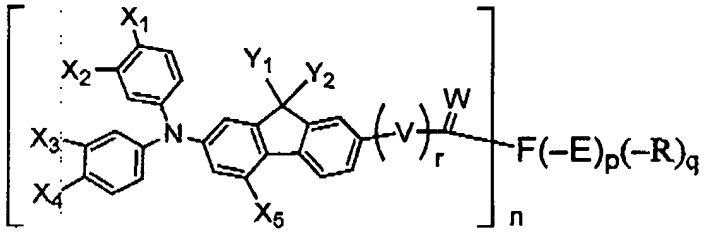
Hsiang-ning Sun
Attorney for Applicants
Registration No. 39849
Customer No. 000041282
4212 Villanova Street
Houston, Texas 77005-3529
(713)-666-8819 (Telephone)
(713)-665-5230 (Fax)

June 27, 2006

PAGE 3/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00

MARKED-UP COPY OF CLAIMS

1. (Amended) A compound of the following formula:



wherein

F is a fullerene core;

E is Y_1,Y_2-amino, Y_2-amino, (Y_1,Y_2-alkyl)-amino, Y_1,Y_2-ethylenediamino, (dihydroxymethyl)alkylamino, (X_1,X_3-aryl)amino, X_1,X_3-aryloxy, Y_2-alkoxy, Y_1,Y_2-alkoxy, (Y_1,Y_2-amino)alkoxy, (Y_1,Y_2,Y_3-aryl)oxy, (dihydroxyalkyl)-aryloxy, (Y_1,Y_2,Y_3-alkyl)amino, (Y_1,Y_2,Y_3-aryl)amino, dihydroxyalkylamino, Y_1,Y_2,Y_3-alkoxy, (trihydroxyalkyl)alkoxy, (trihydroxyalkyl)alkylamino, (dicarboxyalkyl)amino, Y_2-thio, (Y_1,Y_2,Y_3-alkyl)thio, (X_1,X_3-aryl)thio, (Y_1,Y_2-alkyl)thio, (dihydroxyalkyl)thio, Y_1,Y_2-dioxoalkyl, tri-(Y_1,Y_2,Y_3-methylaminocarboxyethyl)methylamino, ((glycosidyl)oxoheteroaryl)amino, ((glycosidyl)oxoaryl)amino, (X_1,X_2,X_3-heteroaryl)amino, (X_1-diarylketone)amino, (T,X_1-oxoaryl)amino, (T,X_1-dioxoaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoheteroaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoaryl)amino, (di(Y_1,Y_2-methyl)dioxoheteroaryl)amino, (di(Y_1,Y_2-methyl)dioxoaryl)amino, ((glycosidyl)heteroaryl)amino, ((glycosidyl)aryl)amino, ((carboxylacetylalkyl)oxo-heteroaryl)amino, ((carboxylacetylalkyl)oxoaryl)amino, ((isopropylaminohydroxy-alkoxy)aryl)amino, (X_1,X_2,X_3-alkylaryl)amino, (X_1,X_2,X_3-heteroaryl)oxy, (isopropylaminohydroxyalkyl)aryloxy, (X_1,X_2,X_3-oxoheteroaryl)oxy, (X_1,X_2,X_3-oxoaryl)oxy, (X_1,Y_1-oxoheteroaryl)oxy, (X_1-diarylketone)oxy, (T,X_1-oxoaryl)oxy, (X_1,X_2-dioxoaryl)oxy, (Y_1,Y_2,di-aminodihydroxy)alkyl, (X_1,X_2-heteroaryl)thio, ((tricarboxylalkyl)ethylene-diamino)alkoxy, (X_1,X_2-oxoaryl)thio, (X_1,X_2-dioxoaryl)thio, (glycosidylheteroaryl)thio, (glycosidylaryl)thio, Y_1-alkyl(thiocarbonyl)thio, Y_1,Y_2,-alkyl(thiocarbonyl)thio, Y_1,Y_2,Y_3-alkyl(thiocarbonyl)thio, (Y_1,Y_2-aminothiocarbonyl)thio, (pyranosyl)thio, cysteinyl, tyrosinyl, (phenylalainyl)amino, (dicarboxyalkyl)thio, (aminoaryl)$_{1\text{-}100}$amino, (pyranosyl)$_{1\text{-}100}$amino, (Y_1-aminoaryl)$_1$-

PAGE 4/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00

$_{100}$amino, (amino(sulfoaryl))$_{1-100}$amino, peptidyl, thymidinyl, uridinyl, guanosinyl, adenosinyl, cholesteryl, or biotinylalkoxy; each T, independently, being halo;

each of X_1, X_2, X_3, X_4, and X_5, independently, is $-Y_2$, -O-Y_2, -S-Y_2, -NH-Y_2, -CO-O-Y_2, -O-CO-Y_2, -CO-NH-Y_2, -CO-NY_1Y_2, -NH-CO-Y_2, -SO_2-Y_2, -SO_2-O-Y_2, -CHY_1Y_2, or -NY_1Y_2;

each of Y_1, Y_2, and Y_3, independently or taken together, is -B-Z or -Z; in which each B, independently, is -R^a-O-[$Si(CH_3)_2$-O-]$_{1-100}$, C_{1-2000} alkyl, C_{6-40} aryl, C_{7-2000} alkylaryl, C_{7-2000} arylalkyl, (C_{1-30} alkyl ether)$_{1-100}$, (C_{6-40} aryl ether)$_{1-100}$, (C_{7-2000} alkylaryl ether)$_{1-100}$, (C_{7-2000} arylalkyl ether)$_{1-100}$, (C_{1-30} alkyl thioether)$_{1-100}$, (C_{6-40} aryl thioether)$_{1-100}$, (C_{7-2000} alkylaryl thioether)$_{1-100}$, (C_{7-2000} arylalkyl thioether)$_{1-100}$, (C_{2-50} alkyl ester)$_{1-100}$, (C_{7-2000} aryl ester)$_{1-100}$, (C_{8-2000} alkylaryl ester)$_{1-100}$, (C_{8-2000} arylalkyl ester)$_{1-100}$, -R^a-CO-O-(C_{1-30} alkyl ether)$_{1-100}$, -R^a-CO-O-(C_{6-40} aryl ether)$_{1-100}$, -R^a-CO-O-(C_{7-2000} alkylaryl ether)$_{1-100}$, -R^a-CO-O-(C_{7-2000} arylalkyl ether)$_{1-100}$, (C_{4-50} alkyl urethane)$_{1-100}$, (C_{14-60} aryl urethane)$_{1-100}$, ($C_{10-2000}$ alkylaryl urethane)$_{1-100}$, ($C_{10-2000}$ arylalkyl urethane)$_{1-100}$, (C_{5-50} alkyl urea)$_{1-100}$, (C_{14-60} aryl urea)$_{1-100}$, ($C_{10-2000}$ alkylaryl urea)$_{1-100}$, ($C_{10-2000}$ arylalkyl urea)$_{1-100}$, (C_{2-50} alkyl amide)$_{1-100}$, (C_{7-60} aryl amide)$_{1-100}$, (C_{8-2000} alkylaryl amide)$_{1-100}$, (C_{8-2000} arylalkyl amide)$_{1-100}$, (C_{3-30} alkyl anhydride)$_{1-100}$, (C_{8-50} aryl anhydride)$_{1-100}$, (C_{9-2000} alkylaryl anhydride)$_{1-100}$, (C_{9-2000} arylalkyl anhydride)$_{1-100}$, (C_{2-30} alkyl carbonate)$_{1-100}$, (C_{7-50} aryl carbonate)$_{1-100}$, (C_{8-2000} alkylaryl carbonate)$_{1-100}$, (C_{8-2000} arylalkyl carbonate)$_{1-100}$, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$-R^c-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$-R^c-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-,

PAGE 5/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00

-R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$, or -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$; and each Z, independently, is -H or -G-D, wherein G is -R^a-, -R^a-Ar-, -Ar-R^a-, or -Ar-; and D is -H, -OH, -SH, -NH_2, -NHOH, -SO_3H, -OSO_3H, -CO_2H, -$CONH_2$, -$CONHNH_2$, -$CH(NH_2)$-CO_2H, -NH-CH_2-CO_2H, -$P(OH)_3$, -$PO(OH)_2$, -O-$PO(OH)_2$, -O-PO(OH)-O-$PO(OH)_2$, -O-$PO(O^-)$-O-$CH_2CH_2NH_3^+$, -O-$PO(O^-)$-O-CH_2CH_2-$N^+(CH_3)_3$, -glycoside, -oligosaccharide, -CO-glycoside, -CO-oligosaccharide, -OCH_3, -$OCH_2(CHOH)_4$-CH_2OH, -$OCH_2(CHOH)_2$-CH_2OH, -CO-$OCH_2(CHOH)_4$-CH_2OH, -$C_6H_3(OH)_2$, -$N(CH_2CO_2H)_2$, -CO-$N(CH_2CO_2H)_2$, -CO-NH-$C(CH_2CH_2CO_2H)_3$, -CO-NH-$C(CH_2CH_2OH)_3$, -[CH_2-$CH(CO_2R^a)$]$_{1-100}$-H, -NH_3^+, -$N^+H_2R^a$, -$N^+HR^aR^b$, or -$N^+R^aR^bR^c$; each of R^a, R^b, and R^c, independently, being C_{1-20} linear or branched alkyl, and Ar being aryl;

R is hydroxy or amino;

W is O, $C(CN)_2$, $N^+Y_1Y_2$, or V;

V is C_{5-20} aryl or C_{2-20} heteroaryl;

n is 1-10;

p is 0-20;

q is 0-20; and

r is 0~~ or 1~~.

2. (Original) The compound of claim 1, wherein F is a fullerene core of C_{60}, C_{70}, C_{76}, C_{78}, C_{82}, C_{84}, C_{92} (methano)$_n$$C_{60}$, (pyrrolidino)$_n$$C_{60}$, La@$C_s$, Ho@$C_s$, Gd@$C_s$, or Er@$C_s$, in which n is 1-10, and s is 60, 74, or 82.

3. (Original) The compound of claim 2, wherein F is a fullerene core of C_{60}, C_{70}, or C_{84}.

4. (Original) The compound of claim 1, wherein each of X_1, X_2, X_3, X_4, and X_5, independently, is hydrogen.

5. (Original) The compound of claim 1, wherein each of Y_1, Y_2, and Y_3, independently, is hydrogen, C_{1-2000} alkyl, C_{6-40} aryl, or C_{7-2000} arylalkyl, optioanlly substituted with -OH, -SH, -NH_2, -NHOH, -SO_3H, -OSO_3H, -CO_2H, -$CONH_2$, -

$CONHNH_2$, $-CH(NH_2)-CO_2H$, $-NH-CH_2-CO_2H$, $-NH_3^+$, $-N^+H_2R^a$, $-N^+HR^aR^b$, or $-N^+R^aR^bR^c$,

6. (Original) The compound of claim 1, wherein each of Y_1, Y_2, and Y_3, independently, is ethyl, hydroxyethyl, methoxyethyl, solfonylbutoxyethyl, hydroxycarbonylmethyl, or hydroxycarbonylethyl.

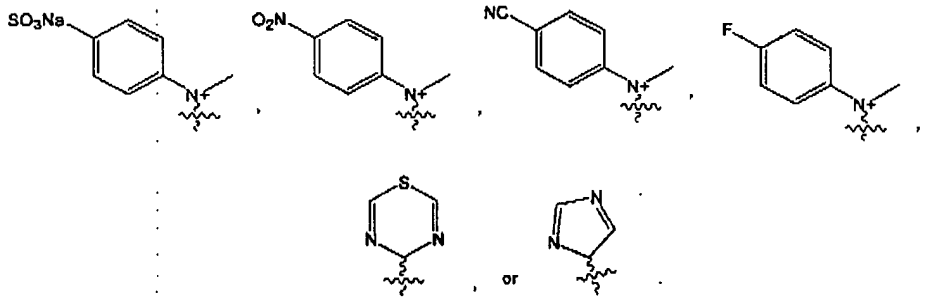
7. (Cancelled) ~~The compound of claim 1, wherein r is 0.~~

8. (Cancelled) ~~The compound of claim 1, wherein r is 1, and V is aryl.~~

9. (Cancelled) ~~The compound of claim 9, wherein V is phenyl.~~

10. (Original) The compound of claim 1, wherein W is O, $C(CN)_2$, heteroaryl, $N^+Y_1Y_2$, each of Y_1 and Y_2, independently, being hydrogen, alkyl, aryl, or heteroaryl, or, together, being ary or heteroaryl.

11. (Original) The compound of claim 10, wherein W is O, $C(CN)_2$,



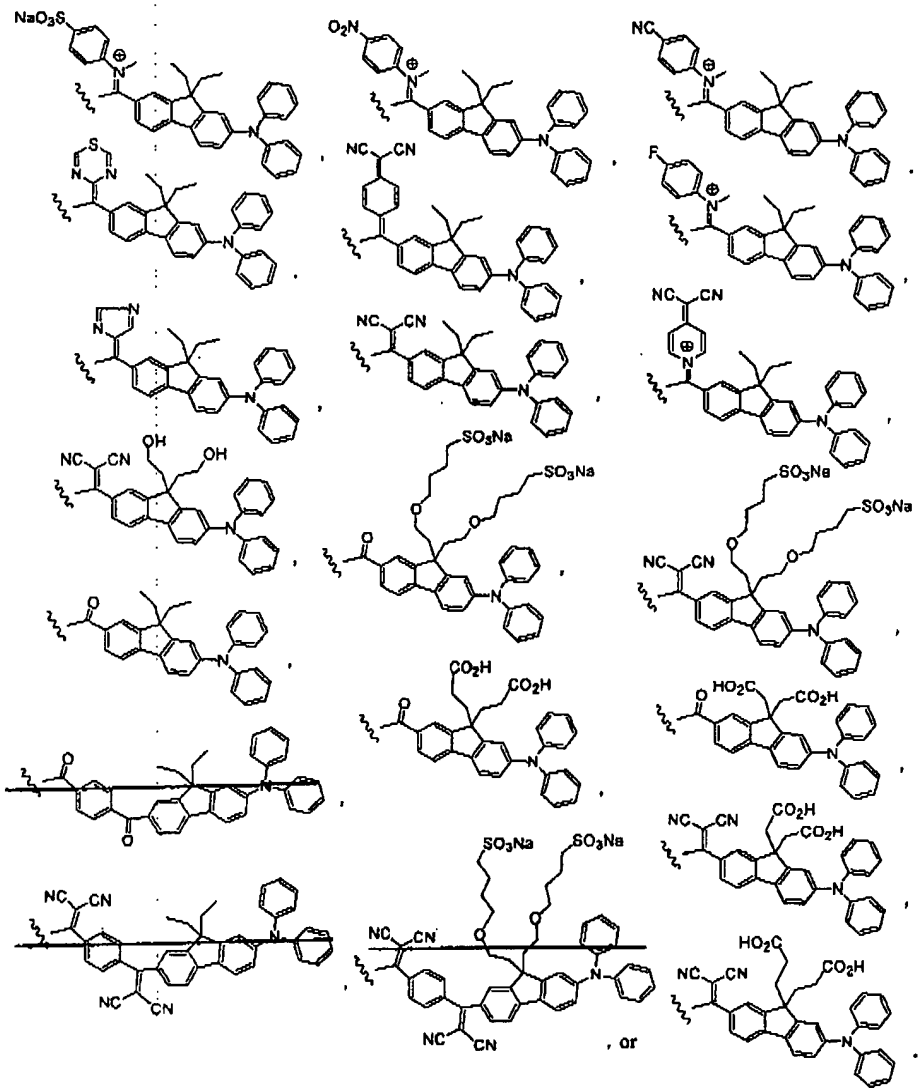
12. (Original) The compound of claim 1, wherein E is Y_1,Y_2-amino, Y_2-amino, (Y_1,Y_2-alkyl)-amino, Y_1,Y_2-ethylenediamino, (dihydroxymethyl)alkylamino, (X_1,X_3-aryl)amino, (Y_1,Y_2,Y_3-alkyl)amino, (Y_1,Y_2,Y_3-aryl)amino, dihydroxyalkylamino, (trihydroxyalkyl)alkylamino, or (dicarboxyalkyl)amino; and p is 1-4.

13. (Original) The compound of claim 12, wherein E is diphenylamino.

14. (Original) The compound of claim 1, wherein R is hydroxy or amino.

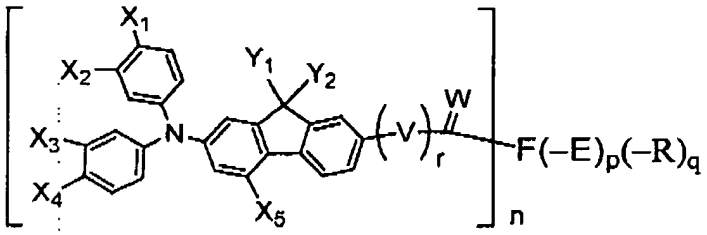
15. (Original) The compound of claim 1, wherein q is 0.

16. (Amended) The compound of claim 1, wherein the compound is of the following structure of $F(-M)_n$, in which F is a fullerene core of C_{60}, n is 1-6, each M, independently, is



17. (Amended) A pharmaceutical composition, comprising a pharmaceutically acceptable carrier and a compound of the following formula:

PAGE 8/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00



wherein

F is a fullerene core;

E is Y_1,Y_2-amino, Y_2-amino, (Y_1,Y_2-alkyl)-amino, Y_1,Y_2-ethylenediamino, (dihydroxymethyl)alkylamino, (X_1,X_3-aryl)amino, X_1,X_3-aryloxy, Y_2-alkoxy, Y_1,Y_2-alkoxy, (Y_1,Y_2-amino)alkoxy, (Y_1,Y_2,Y_3-aryl)oxy, (dihydroxyalkyl)-aryloxy, (Y_1,Y_2,Y_3-alkyl)amino, (Y_1,Y_2,Y_3-aryl)amino, dihydroxyalkylamino, Y_1,Y_2,Y_3-alkoxy, (trihydroxyalkyl)alkoxy, (trihydroxyalkyl)alkylamino, (dicarboxyalkyl)amino, Y_2-thio, (Y_1,Y_2,Y_3-alkyl)thio, (X_1,X_3-aryl)thio, (Y_1,Y_2-alkyl)thio, (dihydroxyalkyl)thio, Y_1,Y_2-dioxoalkyl, tri-(Y_1,Y_2,Y_3-methylaminocarboxyethyl)methylamino, ((glycosidyl)oxoheteroaryl)amino, ((glycosidyl)oxoaryl)amino, (X_1,X_2,X_3-heteroaryl)amino, (X_1-diarylketone)amino, (T,X_1-oxoaryl)amino, (T,X_1-dioxoaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoheteroaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoaryl)amino, (di(Y_1,Y_2-methyl)dioxoheteroaryl)amino, (di(Y_1,Y_2-methyl)dioxoaryl)amino, ((glycosidyl)heteroaryl)amino, ((glycosidyl)aryl)amino, ((carboxylacetylalkyl)oxo-heteroaryl)amino, ((carboxylacetylalkyl)oxoaryl)amino, ((isopropylaminohydroxy-alkoxy)aryl)amino, (X_1,X_2,X_3-alkylaryl)amino, (X_1,X_2,X_3-heteroaryl)oxy, (isopropylaminohydroxyalkyl)aryloxy, (X_1,X_2,X_3-oxoheteroaryl)oxy, (X_1,X_2,X_3-oxoaryl)oxy, (X_1,Y_1-oxoheteroaryl)oxy, (X_1-diarylketone)oxy, (T,X_1-oxoaryl)oxy, (X_1,X_2-dioxoaryl)oxy, (Y_1,Y_2,di-aminodihydroxy)alkyl, (X_1,X_2-heteroaryl)thio, ((tricarboxylalkyl)ethylene-diamino)alkoxy, (X_1,X_2-oxoaryl)thio, (X_1,X_2-dioxoaryl)thio, (glycosidylheteroaryl)thio, (glycosidylaryl)thio, Y_1-alkyl(thiocarbonyl)thio, Y_1,Y_2,-alkyl(thiocarbonyl)thio, Y_1,Y_2,Y_3-alkyl(thiocarbonyl)thio, (Y_1,Y_2-aminothiocarbonyl)thio, (pyranosyl)thio, cysteinyl, tyrosinyl, (phenylalainyl)amino, (dicarboxyalkyl)thio, (aminoaryl)$_{1\text{-}100}$amino, (pyranosyl)$_{1\text{-}100}$amino, (Y_1-aminoaryl)$_{1\text{-}100}$amino, (amino(sulfoaryl))$_{1\text{-}100}$amino, peptidyl, thymidinyl, uridinyl, guanosinyl, adenosinyl, cholesteryl, or biotinylalkoxy; each T, independently, being halo;

each of X_1, X_2, X_3, X_4, and X_5, independently, is $-Y_2$, $-O-Y_2$, $-S-Y_2$, $-NH-Y_2$, $-CO-O-Y_2$, $-O-CO-Y_2$, $-CO-NH-Y_2$, $-CO-NY_1Y_2$, $-NH-CO-Y_2$, $-SO_2-Y_2$, $-SO_2-O-Y_2$, $-CHY_1Y_2$, or $-NY_1Y_2$;

each of Y_1, Y_2, and Y_3, independently or taken together, is -B-Z or -Z; in which each B, independently, is $-R^a-O-[Si(CH_3)_2-O-]_{1-100}$, C_{1-2000} alkyl, C_{6-40} aryl, C_{7-2000} alkylaryl, C_{7-2000} arylalkyl, $(C_{1-30}$ alkyl ether$)_{1-100}$, $(C_{6-40}$ aryl ether$)_{1-100}$, $(C_{7-2000}$ alkylaryl ether$)_{1-100}$, $(C_{7-2000}$ arylalkyl ether$)_{1-100}$, $(C_{1-30}$ alkyl thioether$)_{1-100}$, $(C_{6-40}$ aryl thioether$)_{1-100}$, $(C_{7-2000}$ alkylaryl thioether$)_{1-100}$, $(C_{7-2000}$ arylalkyl thioether$)_{1-100}$, $(C_{2-50}$ alkyl ester$)_{1-100}$, $(C_{7-2000}$ aryl ester$)_{1-100}$, $(C_{8-2000}$ alkylaryl ester$)_{1-100}$, $(C_{8-2000}$ arylalkyl ester$)_{1-100}$, $-R^a-CO-O-(C_{1-30}$ alkyl ether$)_{1-100}$, $-R^a-CO-O-(C_{6-40}$ aryl ether$)_{1-100}$, $-R^a-CO-O-(C_{7-2000}$ alkylaryl ether$)_{1-100}$, $-R^a-CO-O-(C_{7-2000}$ arylalkyl ether$)_{1-100}$, $(C_{4-50}$ alkyl urethane$)_{1-100}$, $(C_{14-60}$ aryl urethane$)_{1-100}$, $(C_{10-2000}$ alkylaryl urethane$)_{1-100}$, $(C_{10-2000}$ arylalkyl urethane$)_{1-100}$, $(C_{5-50}$ alkyl urea$)_{1-100}$, $(C_{14-60}$ aryl urea$)_{1-100}$, $(C_{10-2000}$ alkylaryl urea$)_{1-100}$, $(C_{10-2000}$ arylalkyl urea$)_{1-100}$, $(C_{2-50}$ alkyl amide$)_{1-100}$, $(C_{7-60}$ aryl amide$)_{1-100}$, $(C_{8-2000}$ alkylaryl amide$)_{1-100}$, $(C_{8-2000}$ arylalkyl amide$)_{1-100}$, $(C_{3-30}$ alkyl anhydride$)_{1-100}$, $(C_{8-50}$ aryl anhydride$)_{1-100}$, $(C_{9-2000}$ alkylaryl anhydride$)_{1-100}$, $(C_{9-2000}$ arylalkyl anhydride$)_{1-100}$, $(C_{2-30}$ alkyl carbonate$)_{1-100}$, $(C_{7-50}$ aryl carbonate$)_{1-100}$, $(C_{8-2000}$ alkylaryl carbonate$)_{1-100}$, $(C_{8-2000}$ arylalkyl carbonate$)_{1-100}$, $-R^a-O-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether$)_{1-100}$, $-R^a-O-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester$)_{1-100}$, $-R^a-O-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether$)_{1-100}$-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, $-R^a-O-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester$)_{1-100}$-R^c-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, $-R^a-NH-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether$)_{1-100}$, $-R^a-NH-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester$)_{1-100}$, $-R^a-NH-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether$)_{1-100}$-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, $-R^a-NH-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester$)_{1-100}$-R^c-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, $-R^a-O-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide$)_{1-100}$, or $-R^a-NH-CO-NH-(R^b$ or Ar-R^b-Ar)-NH-

CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$; and each Z, independently, is -H or -G-D, wherein G is -R^a-, -R^a-Ar-, -Ar-R^a-, or -Ar-; and D is -H, -OH, -SH, -NH_2, -NHOH, -SO_3H, -OSO_3H, -CO_2H, -$CONH_2$, -$CONHNH_2$, -$CH(NH_2)$-CO_2H, -NH-CH_2-CO_2H, -$P(OH)_3$, -$PO(OH)_2$, -O-$PO(OH)_2$, -O-PO(OH)-O-$PO(OH)_2$, -O-$PO(O^-)$-O-$CH_2CH_2NH_3^+$, -O-$PO(O^-)$-O-CH_2CH_2-$N^+(CH_3)_3$, -glycoside, -oligosaccharide, -CO-glycoside, -CO-oligosaccharide, -OCH_3, -$OCH_2(CHOH)_4$-CH_2OH, -$OCH_2(CHOH)_2$-CH_2OH, -CO-$OCH_2(CHOH)_4$-CH_2OH, -$C_6H_3(OH)_2$, -$N(CH_2CO_2H)_2$, -CO-$N(CH_2CO_2H)_2$, -CO-NH-$C(CH_2CH_2CO_2H)_3$, -CO-NH-$C(CH_2CH_2OH)_3$, -$[CH_2$-$CH(CO_2R^a)]_{1-100}$-H, -NH_3^+, -$N^+H_2R^a$, -$N^+HR^aR^b$, or -$N^+R^aR^bR^c$, each of R^a, R^b, and R^c, independently, being C_{1-20} linear or branched alkyl, and Ar being aryl;

R is alkyl, hydroxy, or amino;

W is O, $C(CN)_2$, $N^+Y_1Y_2$, or V;

V is C_{5-20} aryl or C_{2-20} heteroaryl;

n is 1-10;

p is 0-20;

q is 0-20; and

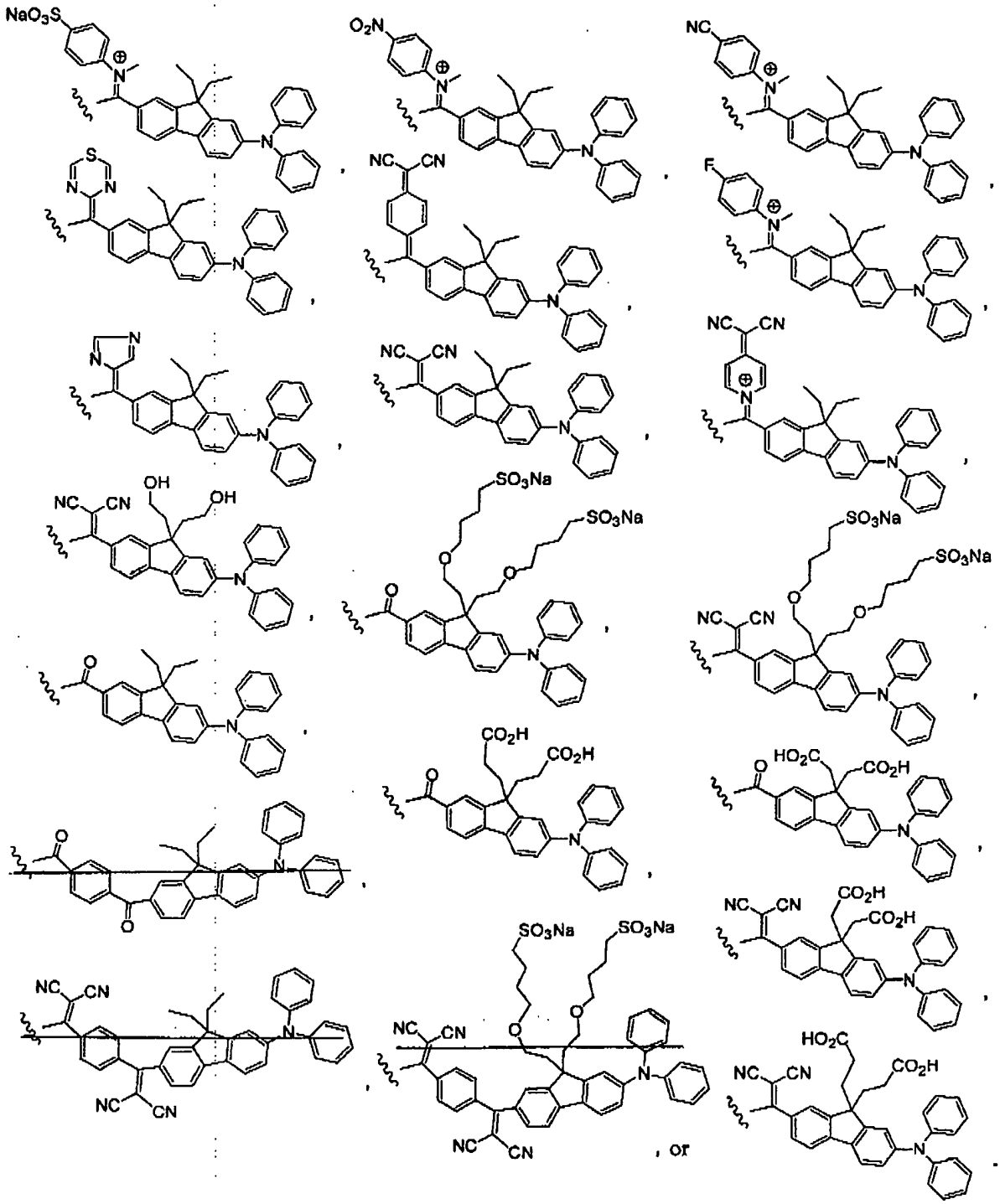
r is 0 ~~or 1~~.

18. (Amended) The pharmaceutical composition of claim 17, wherein ~~wherein~~ F is a fullerene core of C_{60}, C_{70}, C_{76}, C_{78}, C_{82}, C_{84}, C_{92} $(methano)_nC_{60}$, $(pyrrolidino)_nC_{60}$, $La@C_s$, $Ho@C_s$, $Gd@C_s$, or $Er@C_s$, in which n is 1-10, and s is 60, 74, or 82.

19. (Original) The pharmaceutical composition of claim 17, wherein each of X_1, X_2, X_3, X_4, and X_5, independently, is hydrogen.

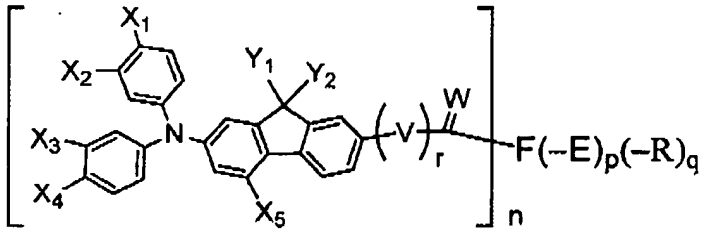
20. (Amended) The pharmaceutical <u>composition</u> ~~compoistion~~ of claim 17, wherein the compound is of the following structure of $F(\text{-}M)_n$, in which F is a fullerene core of C_{60}, n is 1-6, each M, independently, is:

PAGE 11/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00



CLEAN COPY OF CLAIMS

1. A compound of the following formula:



wherein

F is a fullerene core;

E is Y_1,Y_2-amino, Y_2-amino, (Y_1,Y_2-alkyl)-amino, Y_1,Y_2-ethylenediamino, (dihydroxymethyl)alkylamino, (X_1,X_3-aryl)amino, X_1,X_3-aryloxy, Y_2-alkoxy, Y_1,Y_2-alkoxy, (Y_1,Y_2-amino)alkoxy, (Y_1,Y_2,Y_3-aryl)oxy, (dihydroxyalkyl)-aryloxy, (Y_1,Y_2,Y_3-alkyl)amino, (Y_1,Y_2,Y_3-aryl)amino, dihydroxyalkylamino, Y_1,Y_2,Y_3-alkoxy, (trihydroxyalkyl)alkoxy, (trihydroxyalkyl)alkylamino, (dicarboxyalkyl)amino, Y_2-thio, (Y_1,Y_2,Y_3-alkyl)thio, (X_1,X_3-aryl)thio, (Y_1,Y_2-alkyl)thio, (dihydroxyalkyl)thio, Y_1,Y_2-dioxoalkyl, tri-(Y_1,Y_2,Y_3-methylaminocarboxyethyl)methylamino, ((glycosidyl)oxoheteroaryl)amino, ((glycosidyl)oxoaryl)amino, (X_1,X_2,X_3-heteroaryl)amino; (X_1-diarylketone)amino, (T,X_1-oxoaryl)amino, (T,X_1-dioxoaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoheteroaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoaryl)amino, (di(Y_1,Y_2-methyl)dioxoheteroaryl)amino, (di(Y_1,Y_2-methyl)dioxoaryl)amino, ((glycosidyl)heteroaryl)amino, ((glycosidyl)aryl)amino, ((carboxylacetylalkyl)oxo-heteroaryl)amino; ((carboxylacetylalkyl)oxoaryl)amino, ((isopropylaminohydroxy-alkoxy)aryl)amino, (X_1,X_2,X_3-alkylaryl)amino, (X_1,X_2,X_3-heteroaryl)oxy, (isopropylaminohydroxyalkyl)aryloxy, (X_1,X_2,X_3-oxoheteroaryl)oxy, (X_1,X_2,X_3-oxoaryl)oxy, (X_1,Y_1-oxoheteroaryl)oxy, (X_1-diarylketone)oxy, (T,X_1-oxoaryl)oxy, (X_1,X_2-dioxoaryl)oxy, (Y_1,Y_2,di-aminodihydroxy)alkyl, (X_1,X_2-heteroaryl)thio, ((tricarboxylalkyl)ethylene-diamino)alkoxy, (X_1,X_2-oxoaryl)thio, (X_1,X_2-dioxoaryl)thio, (glycosidylheteroaryl)thio, (glycosidylaryl)thio, Y_1-alkyl(thiocarbonyl)thio, Y_1,Y_2,-alkyl(thiocarbonyl)thio, Y_1,Y_2,Y_3-alkyl(thiocarbonyl)thio, (Y_1,Y_2-aminothiocarbonyl)thio, (pyranosyl)thio, cysteinyl, tyrosinyl, (phenylalainyl)amino, (dicarboxyalkyl)thio, (aminoaryl)$_{1\text{-}100}$amino, (pyranosyl)$_{1\text{-}100}$amino, (Y_1-aminoaryl)$_{1\text{-}}$

$_{1\text{-}100}$amino, (amino(sulfoaryl))$_{1\text{-}100}$amino, peptidyl, thymidinyl, uridinyl, guanosinyl, adenosinyl, cholesteryl, or biotinylalkoxy; each T, independently, being halo;

each of X_1, X_2, X_3, X_4, and X_5, independently, is $-Y_2$, $-O-Y_2$, $-S-Y_2$, $-NH-Y_2$, $-CO-O-Y_2$, $-O-CO-Y_2$, $-CO-NH-Y_2$, $-CO-NY_1Y_2$, $-NH-CO-Y_2$, $-SO_2-Y_2$, $-SO_2-O-Y_2$, $-CHY_1Y_2$, or $-NY_1Y_2$;

each of Y_1, Y_2, and Y_3, independently or taken together, is -B-Z or -Z; in which each B, independently, is $-R^a-O-[Si(CH_3)_2-O-]_{1\text{-}100}$, $C_{1\text{-}2000}$ alkyl, $C_{6\text{-}40}$ aryl, $C_{7\text{-}2000}$ alkylaryl, $C_{7\text{-}2000}$ arylalkyl, $(C_{1\text{-}30}$ alkyl ether$)_{1\text{-}100}$, $(C_{6\text{-}40}$ aryl ether$)_{1\text{-}100}$, $(C_{7\text{-}2000}$ alkylaryl ether$)_{1\text{-}100}$, $(C_{7\text{-}2000}$ arylalkyl ether$)_{1\text{-}100}$, $(C_{1\text{-}30}$ alkyl thioether$)_{1\text{-}100}$, $(C_{6\text{-}40}$ aryl thioether$)_{1\text{-}100}$, $(C_{7\text{-}2000}$ alkylaryl thioether$)_{1\text{-}100}$, $(C_{7\text{-}2000}$ arylalkyl thioether$)_{1\text{-}100}$, $(C_{2\text{-}50}$ alkyl ester$)_{1\text{-}100}$, $(C_{7\text{-}2000}$ aryl ester$)_{1\text{-}100}$, $(C_{8\text{-}2000}$ alkylaryl ester$)_{1\text{-}100}$, $(C_{8\text{-}2000}$ arylalkyl ester$)_{1\text{-}100}$, $-R^a-CO-O-(C_{1\text{-}30}$ alkyl ether$)_{1\text{-}100}$, $-R^a-CO-O-(C_{6\text{-}40}$ aryl ether$)_{1\text{-}100}$, $-R^a-CO-O-(C_{7\text{-}2000}$ alkylaryl ether$)_{1\text{-}100}$, $-R^a-CO-O-(C_{7\text{-}2000}$ arylalkyl ether$)_{1\text{-}100}$, $(C_{4\text{-}50}$ alkyl urethane$)_{1\text{-}100}$, $(C_{14\text{-}60}$ aryl urethane$)_{1\text{-}100}$, $(C_{10\text{-}2000}$ alkylaryl urethane$)_{1\text{-}100}$, $(C_{10\text{-}2000}$ arylalkyl urethane$)_{1\text{-}100}$, $(C_{5\text{-}50}$ alkyl urea$)_{1\text{-}100}$, $(C_{14\text{-}60}$ aryl urea$)_{1\text{-}100}$, $(C_{10\text{-}2000}$ alkylaryl urea$)_{1\text{-}100}$, $(C_{10\text{-}2000}$ arylalkyl urea$)_{1\text{-}100}$, $(C_{2\text{-}50}$ alkyl amide$)_{1\text{-}100}$, $(C_{7\text{-}60}$ aryl amide$)_{1\text{-}100}$, $(C_{8\text{-}2000}$ alkylaryl amide$)_{1\text{-}100}$, $(C_{8\text{-}2000}$ arylalkyl amide$)_{1\text{-}100}$, $(C_{3\text{-}30}$ alkyl anhydride$)_{1\text{-}100}$, $(C_{8\text{-}50}$ aryl anhydride$)_{1\text{-}100}$, $(C_{9\text{-}2000}$ alkylaryl anhydride$)_{1\text{-}100}$, $(C_{9\text{-}2000}$ arylalkyl anhydride$)_{1\text{-}100}$, $(C_{2\text{-}30}$ alkyl carbonate$)_{1\text{-}100}$, $(C_{7\text{-}50}$ aryl carbonate$)_{1\text{-}100}$, $(C_{8\text{-}2000}$ alkylaryl carbonate$)_{1\text{-}100}$, $(C_{8\text{-}2000}$ arylalkyl carbonate$)_{1\text{-}100}$, $-R^a-O-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{1\text{-}30}$ alkyl ether, $C_{6\text{-}40}$ aryl ether, $C_{7\text{-}2000}$ alkylaryl ether, or $C_{7\text{-}2000}$ arylalkyl ether$)_{1\text{-}100}$, $-R^a-O-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{2\text{-}50}$ alkyl ester, $C_{7\text{-}60}$ aryl ester, $C_{8\text{-}2000}$ alkylaryl ester, or $C_{8\text{-}2000}$ arylalkyl ester$)_{1\text{-}100}$, $-R^a-O-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{1\text{-}30}$ alkyl ether, $C_{6\text{-}40}$ aryl ether, $C_{7\text{-}2000}$ alkylaryl ether, or $C_{7\text{-}2000}$ arylalkyl ether$)_{1\text{-}100}-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-$, $-R^a-O-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{2\text{-}50}$ alkyl ester, $C_{7\text{-}60}$ aryl ester, $C_{8\text{-}2000}$ alkylaryl ester, or $C_{8\text{-}2000}$ arylalkyl ester$)_{1\text{-}100}-R^c-O-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-$, $-R^a-NH-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{1\text{-}30}$ alkyl ether, $C_{6\text{-}40}$ aryl ether, $C_{7\text{-}2000}$ alkylaryl ether, or $C_{7\text{-}2000}$ arylalkyl ether$)_{1\text{-}100}$, $-R^a-NH-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{2\text{-}50}$ alkyl ester, $C_{7\text{-}60}$ aryl ester, $C_{8\text{-}2000}$ alkylaryl ester, or $C_{8\text{-}2000}$ arylalkyl ester$)_{1\text{-}100}$, $-R^a-NH-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{1\text{-}30}$ alkyl ether, $C_{6\text{-}40}$ aryl ether, $C_{7\text{-}2000}$ alkylaryl ether, or $C_{7\text{-}2000}$ arylalkyl ether$)_{1\text{-}100}-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-$, $-R^a-NH-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-(C_{2\text{-}50}$ alkyl ester, $C_{7\text{-}60}$ aryl ester, $C_{8\text{-}2000}$ alkylaryl ester, or $C_{8\text{-}2000}$ arylalkyl ester$)_{1\text{-}100}-R^c-O-CO-NH-(R^b$ or $Ar-R^b-Ar)-NH-CO-O-$,

-R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$, or -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$; and each Z, independently, is -H or -G-D, wherein G is -R^a-, -R^a-Ar-, -Ar-R^a-, or -Ar-; and D is -H, -OH, -SH, -NH_2, -NHOH, -SO_3H, -OSO_3H, -CO_2H, -$CONH_2$, -$CONHNH_2$, -$CH(NH_2)$-CO_2H, -NH-CH_2-CO_2H, -$P(OH)_3$, -$PO(OH)_2$, -O-$PO(OH)_2$, -O-PO(OH)-O-$PO(OH)_2$, -O-$PO(O^-)$-O-$CH_2CH_2NH_3^+$, -O-$PO(O^-)$-O-CH_2CH_2-$N^+(CH_3)_3$, -glycoside, -oligosaccharide, -CO-glycoside, -CO-oligosaccharide, -OCH_3, -$OCH_2(CHOH)_4$-CH_2OH, -$OCH_2(CHOH)_2$-CH_2OH, -CO-$OCH_2(CHOH)_4$-CH_2OH, -$C_6H_3(OH)_2$, -$N(CH_2CO_2H)_2$, -CO-$N(CH_2CO_2H)_2$, -CO-NH-$C(CH_2CH_2CO_2H)_3$, -CO-NH-$C(CH_2CH_2OH)_3$, -$[CH_2$-$CH(CO_2R^a)]_{1-100}$-H, -NH_3^+, -$N^+H_2R^a$, -$N^+HR^aR^b$, or -$N^+R^aR^bR^c$; each of R^a, R^b, and R^c, independently, being C_{1-20} linear or branched alkyl, and Ar being aryl;

R is hydroxy or amino;

W is O, $C(CN)_2$, $N^+Y_1Y_2$, or V;

V is C_{5-20} aryl or C_{2-20} heteroaryl;

n is 1-10;

p is 0-20;

q is 0-20; and

r is 0.

2. The compound of claim 1, wherein F is a fullerene core of C_{60}, C_{70}, C_{76}, C_{78}, C_{82}, C_{84}, C_{92} (methano)$_n$$C_{60}$, (pyrrolidino)$_n$$C_{60}$, La@$C_s$, Ho@$C_s$, Gd@$C_s$, or Er@$C_s$, in which n is 1-10, and s is 60, 74, or 82.

3. The compound of claim 2, wherein F is a fullerene core of C_{60}, C_{70}, or C_{84}.

4. The compound of claim 1, wherein each of X_1, X_2, X_3, X_4, and X_5, independently, is hydrogen.

5. The compound of claim 1, wherein each of Y_1, Y_2, and Y_3, independently, is hydrogen, C_{1-2000} alkyl, C_{6-40} aryl, or C_{7-2000} arylalkyl, optioanlly substituted with -OH, -SH, -NH_2, -NHOH, -SO_3H, -OSO_3H, -CO_2H, -$CONH_2$, -$CONHNH_2$, -$CH(NH_2)$-CO_2H, -NH-CH_2-CO_2H, -NH_3^+, -$N^+H_2R^a$, -$N^+HR^aR^b$, or -$N^+R^aR^bR^c$,

6. The compound of claim 1, wherein each of Y_1, Y_2, and Y_3, independently, is ethyl, hydroxyethyl, methoxyethyl, solfonylbutoxyethyl, hydroxycarbonylmethyl, or hydroxycarbonylethyl.

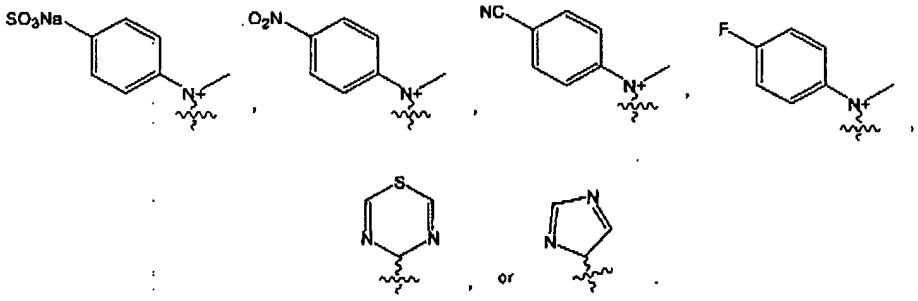
7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. The compound of claim 1, wherein W is O, $C(CN)_2$, heteroaryl, $N^+Y_1Y_2$, each of Y_1 and Y_2, independently, being hydrogen, alkyl, aryl, or heteroaryl, or, together, being ary or heteroaryl.

11. The compound of claim 10, wherein W is O, $C(CN)_2$,



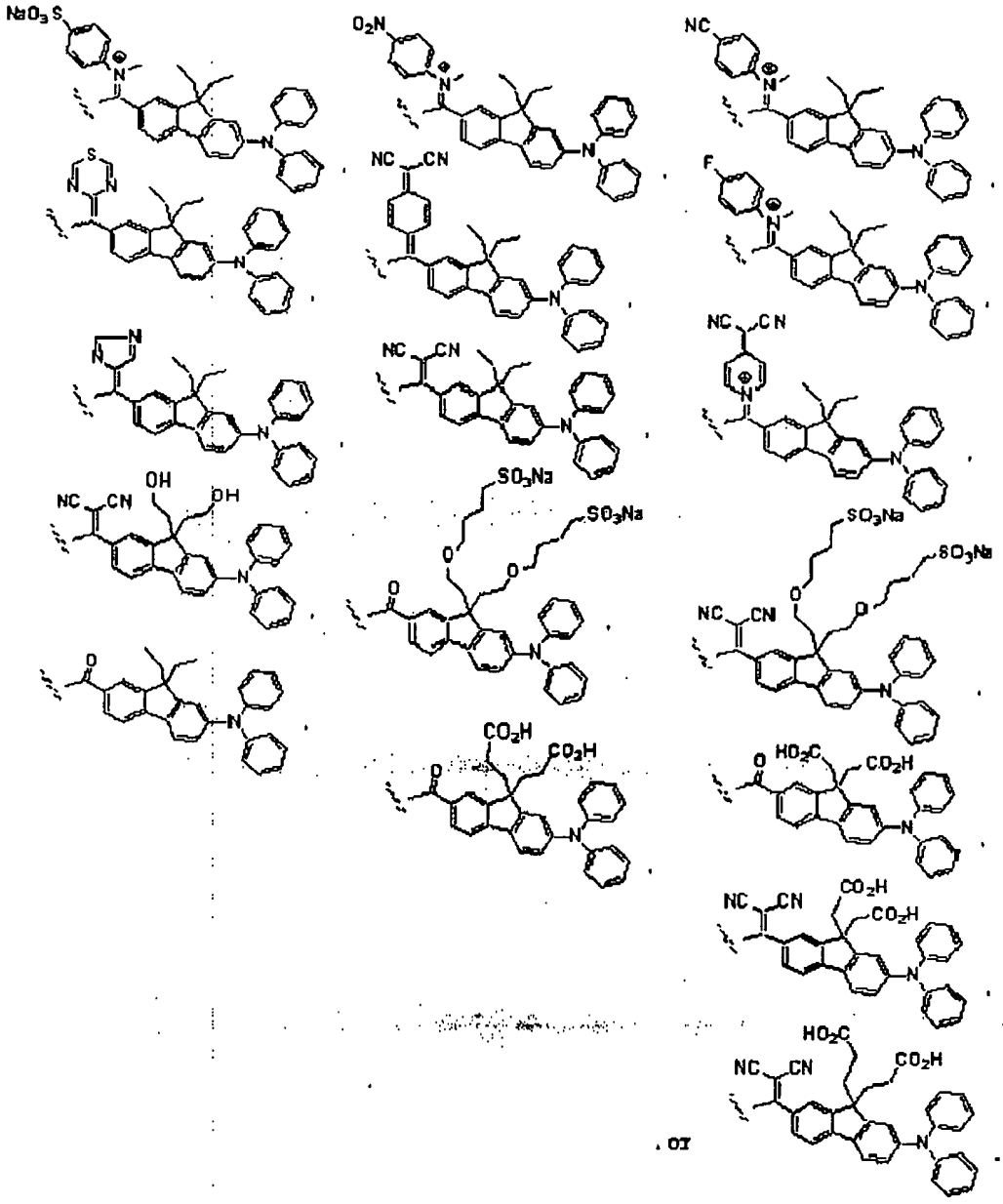
12. The compound of claim 1, wherein E is Y_1,Y_2-amino, Y_2-amino, (Y_1,Y_2-alkyl)-amino, Y_1,Y_2-ethylenediamino, (dihydroxymethyl)alkylamino, (X_1,X_3-aryl)amino, (Y_1,Y_2,Y_3-alkyl)amino, (Y_1,Y_2,Y_3-aryl)amino, dihydroxyalkylamino, (trihydroxyalkyl)alkylamino, or (dicarboxyalkyl)amino; and p is 1-4.

13. The compound of claim 12, wherein E is diphenylamino.

14. The compound of claim 1, wherein R is hydroxy or amino.

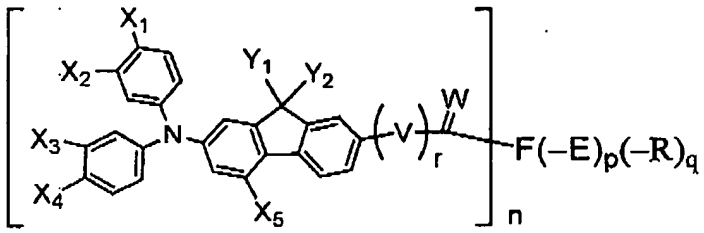
15. The compound of claim 1, wherein q is 0.

16. The compound of claim 1, wherein the compound is of the following structure of $F(-M)_n$, in which F is a fullerene core of C_{60}, n is 1-6, each M, independently, is



17. A pharmaceutical composition, comprising a pharmaceutically acceptable carrier and a compound of the following formula:

PAGE 17/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00



wherein

F is a fullerene core;

E is Y_1,Y_2-amino, Y_2-amino, (Y_1,Y_2-alkyl)-amino, Y_1,Y_2-ethylenediamino, (dihydroxymethyl)alkylamino, (X_1,X_3-aryl)amino, X_1,X_3-aryloxy, Y_2-alkoxy, Y_1,Y_2-alkoxy, (Y_1,Y_2-amino)alkoxy, (Y_1,Y_2,Y_3-aryl)oxy, (dihydroxyalkyl)-aryloxy, (Y_1,Y_2,Y_3-alkyl)amino, (Y_1,Y_2,Y_3-aryl)amino, dihydroxyalkylamino, Y_1,Y_2,Y_3-alkoxy, (trihydroxyalkyl)alkoxy, (trihydroxyalkyl)alkylamino, (dicarboxyalkyl)amino, Y_2-thio, (Y_1,Y_2,Y_3-alkyl)thio, (X_1,X_3-aryl)thio, (Y_1,Y_2-alkyl)thio, (dihydroxyalkyl)thio, Y_1,Y_2-dioxoalkyl, tri-(Y_1,Y_2,Y_3-methylaminocarboxyethyl)methylamino, ((glycosidyl)oxoheteroaryl)amino, ((glycosidyl)oxoaryl)amino, (X_1,X_2,X_3-heteroaryl)amino, (X_1-diarylketone)amino, (T,X_1-oxoaryl)amino, (T,X_1-dioxoaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoheteroaryl)amino, (Y_1-alkyl,Y_2-alkyldioxoaryl)amino, (di(Y_1,Y_2-methyl)dioxoheteroaryl)amino, (di(Y_1,Y_2-methyl)dioxoaryl)amino, ((glycosidyl)heteroaryl)amino, ((glycosidyl)aryl)amino, ((carboxylacetylalkyl)oxo-heteroaryl)amino, ((carboxylacetylalkyl)oxoaryl)amino, ((isopropylaminohydroxy-alkoxy)aryl)amino, (X_1,X_2,X_3-alkylaryl)amino, (X_1,X_2,X_3-heteroaryl)oxy, (isopropylaminohydroxyalkyl)aryloxy, (X_1,X_2,X_3-oxoheteroaryl)oxy, (X_1,X_2,X_3-oxoaryl)oxy, (X_1,Y_1-oxoheteroaryl)oxy, (X_1-diarylketone)oxy, (T,X_1-oxoaryl)oxy, (X_1,X_2-dioxoaryl)oxy, (Y_1,Y_2,di-aminodihydroxy)alkyl, (X_1,X_2-heteroaryl)thio, ((tricarboxylalkyl)ethylene-diamino)alkoxy, (X_1,X_2-oxoaryl)thio, (X_1,X_2-dioxoaryl)thio, (glycosidylheteroaryl)thio, (glycosidylaryl)thio, Y_1-alkyl(thiocarbonyl)thio, Y_1,Y_2,-alkyl(thiocarbonyl)thio, Y_1,Y_2,Y_3-alkyl(thiocarbonyl)thio, (Y_1,Y_2-aminothiocarbonyl)thio, (pyranosyl)thio, cysteinyl, tyrosinyl, (phenylalainyl)amino, (dicarboxyalkyl)thio, (aminoaryl)$_{1\text{-}100}$amino, (pyranosyl)$_{1\text{-}100}$amino, (Y_1-aminoaryl)$_{1\text{-}100}$amino, (amino(sulfoaryl))$_{1\text{-}100}$amino, peptidyl, thymidinyl, uridinyl, guanosinyl, adenosinyl, cholesteryl, or biotinylalkoxy; each T, independently, being halo;

PAGE 18/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00

each of X_1, X_2, X_3, X_4, and X_5, independently, is -Y_2, -O-Y_2, -S-Y_2, -NH-Y_2, -CO-O-Y_2, -O-CO-Y_2, -CO-NH-Y_2, -CO-NY_1Y_2, -NH-CO-Y_2, -SO_2-Y_2, -SO_2-O-Y_2, -CHY_1Y_2, or -NY_1Y_2;

each of Y_1, Y_2, and Y_3, independently or taken together, is -B-Z or -Z; in which each B, independently, is -R^a-O-[$Si(CH_3)_2$-O-]$_{1-100}$, C_{1-2000} alkyl, C_{6-40} aryl, C_{7-2000} alkylaryl, C_{7-2000} arylalkyl, (C_{1-30} alkyl ether)$_{1-100}$, (C_{6-40} aryl ether)$_{1-100}$, (C_{7-2000} alkylaryl ether)$_{1-100}$, (C_{7-2000} arylalkyl ether)$_{1-100}$, (C_{1-30} alkyl thioether)$_{1-100}$, (C_{6-40} aryl thioether)$_{1-100}$, (C_{7-2000} alkylaryl thioether)$_{1-100}$, (C_{7-2000} arylalkyl thioether)$_{1-100}$, (C_{2-50} alkyl ester)$_{1-100}$, (C_{7-2000} aryl ester)$_{1-100}$, (C_{8-2000} alkylaryl ester)$_{1-100}$, (C_{8-2000} arylalkyl ester)$_{1-100}$, -R^a-CO-O-(C_{1-30} alkyl ether)$_{1-100}$, -R^a-CO-O-(C_{6-40} aryl ether)$_{1-100}$, -R^a-CO-O-(C_{7-2000} alkylaryl ether)$_{1-100}$, -R^a-CO-O-(C_{7-2000} arylalkyl ether)$_{1-100}$, (C_{4-50} alkyl urethane)$_{1-100}$, (C_{14-60} aryl urethane)$_{1-100}$, ($C_{10-2000}$ alkylaryl urethane)$_{1-100}$, ($C_{10-2000}$ arylalkyl urethane)$_{1-100}$, (C_{5-50} alkyl urea)$_{1-100}$, (C_{14-60} aryl urea)$_{1-100}$, ($C_{10-2000}$ alkylaryl urea)$_{1-100}$, ($C_{10-2000}$ arylalkyl urea)$_{1-100}$, (C_{2-50} alkyl amide)$_{1-100}$, (C_{7-60} aryl amide)$_{1-100}$, (C_{8-2000} alkylaryl amide)$_{1-100}$, (C_{8-2000} arylalkyl amide)$_{1-100}$, (C_{3-30} alkyl anhydride)$_{1-100}$, (C_{8-50} aryl anhydride)$_{1-100}$, (C_{9-2000} alkylaryl anhydride)$_{1-100}$, (C_{9-2000} arylalkyl anhydride)$_{1-100}$, (C_{2-30} alkyl carbonate)$_{1-100}$, (C_{7-50} aryl carbonate)$_{1-100}$, (C_{8-2000} alkylaryl carbonate)$_{1-100}$, (C_{8-2000} arylalkyl carbonate)$_{1-100}$, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$-R^c-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{1-30} alkyl ether, C_{6-40} aryl ether, C_{7-2000} alkylaryl ether, or C_{7-2000} arylalkyl ether)$_{1-100}$-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-(C_{2-50} alkyl ester, C_{7-60} aryl ester, C_{8-2000} alkylaryl ester, or C_{8-2000} arylalkyl ester)$_{1-100}$-R^c-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-O-, -R^a-O-CO-NH-(R^b or Ar-R^b-Ar)-NH-CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$, or -R^a-NH-CO-NH-(R^b or Ar-R^b-Ar)-NH-

PAGE 19/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00

CO-NH-(C_{2-50} alkyl amide, C_{7-60} aryl amide, C_{8-2000} alkylaryl amide, or C_{8-2000} arylalkyl amide)$_{1-100}$; and each Z, independently, is -H or -G-D, wherein G is -R^a-, -R^a-Ar-, -Ar-R^a-, or -Ar-; and D is -H, -OH, -SH, -NH_2, -NHOH, -SO_3H, -OSO_3H, -CO_2H, -$CONH_2$, -$CONHNH_2$, -CH(NH_2)-CO_2H, -NH-CH_2-CO_2H, -$P(OH)_3$, -$PO(OH)_2$, -O-$PO(OH)_2$, -O-PO(OH)-O-$PO(OH)_2$, -O-$PO(O^-)$-O-$CH_2CH_2NH_3^+$, -O-$PO(O^-)$-O-CH_2CH_2-$N^+(CH_3)_3$, -glycoside, -oligosaccharide, -CO-glycoside, -CO-oligosaccharide, -OCH_3, -OCH_2(CHOH)$_4$-CH_2OH, -OCH_2(CHOH)$_2$-CH_2OH, -CO-OCH_2(CHOH)$_4$-CH_2OH, -$C_6H_3(OH)_2$, -$N(CH_2CO_2H)_2$, -CO-$N(CH_2CO_2H)_2$, -CO-NH-$C(CH_2CH_2CO_2H)_3$, -CO-NH-$C(CH_2CH_2OH)_3$, -[CH_2-CH(CO_2R^a)]$_{1-100}$-H, -NH_3^+, -$N^+H_2R^a$, -$N^+HR^aR^b$, or -$N^+R^aR^bR^c$, each of R^a, R^b, and R^c, independently, being C_{1-20} linear or branched alkyl, and Ar being aryl;

R is alkyl, hydroxy, or amino;

W is O, $C(CN)_2$, $N^+Y_1Y_2$, or V;

V is C_{5-20} aryl or C_{2-20} heteroaryl;

n is 1-10;

p is 0-20;

q is 0-20; and

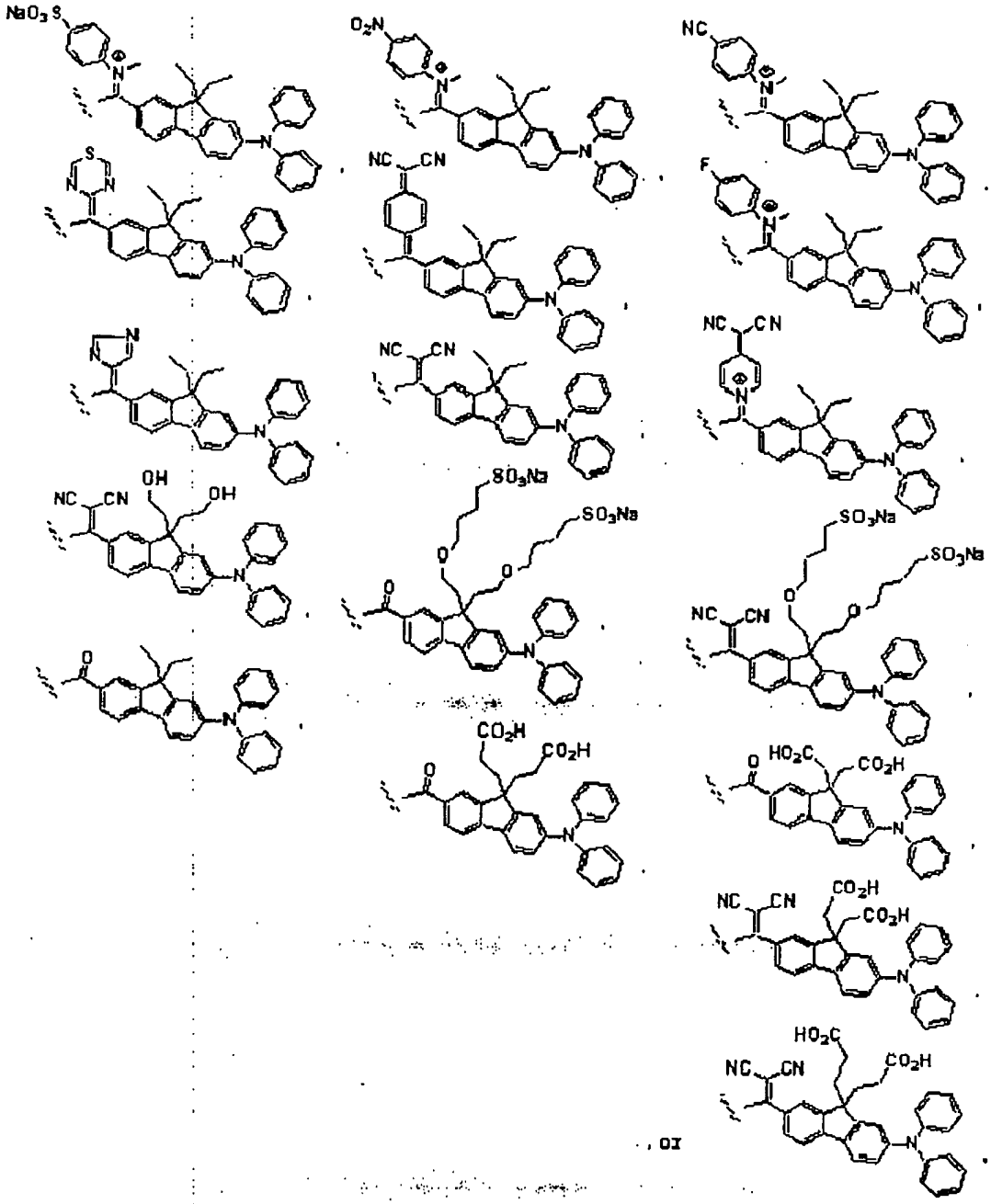
r is 0.

18. The pharmaceutical composition of claim 17, wherein F is a fullerene core of C_{60}, C_{70}, C_{76}, C_{78}, C_{82}, C_{84}, C_{92} (methano)$_n$$C_{60}$, (pyrrolidino)$_n$$C_{60}$, La@$C_s$, Ho@$C_s$, Gd@$C_s$, or Er@$C_s$, in which n is 1-10, and s is 60, 74, or 82.

19. The pharmaceutical composition of claim 17, wherein each of X_1, X_2, X_3, X_4, and X_5, independently, is hydrogen.

20. The pharmaceutical composition of claim 17, wherein the compound is of the following structure of F(-M)$_n$, in which F is a fullerene core of C_{60}, n is 1-6, each M, independently, is:

PAGE 20/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00



PAGE 21/21 * RCVD AT 6/27/2006 7:51:18 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/29 * DNIS:2735575 * CSID:7136655230 * DURATION (mm-ss):08-00